

B5

**COMPOUND PLANT**

Patent Number: JP59063310  
Publication date: 1984-04-11  
Inventor(s): BETSUSHIYO TAISUKE; others: 04  
Applicant(s): HITACHI SEISAKUSHO KK  
Requested Patent: JP59063310  
Application Number: JP19820067422 19820423  
Priority Number(s):  
IPC Classification: F01K23/04; F01K23/10  
EC Classification:  
Equivalents:

**Abstract**

**PURPOSE:**To provide higher overall generated power in a compound plant designed that the secondary power generating system is caused to generate power with the aid of waste heat of the primary power generating system by controlling the operating condition of working fluid as to maximize the power of the secondary system without changing the generated capacity of the primary system.

**CONSTITUTION:**In a system, for example, wherein an evaporator 5, namely, a condenser of a primary system nuclear power plant recovers waste heat and power is then generated in a secondary system which uses ammonia as working fluid, a controller 25 computes the physical properties of a plurality of fluids and the operating condition of the working fluids is determined on the bases of the thermal income and expenditure of each of the turbine 14, the evaporator 5 and a condenser 16 of the secondary system according to those factors of the preset value and temperature of the working fluid in the secondary system at the inlet of the evaporator 5, the temperature at the outlet thereof and the pressure inside the condenser 16. And the capacity of generated power is calculated and searched by use of a criterion function of a Rankine cycle. The working fluid is then controlled under the determined operating condition. Waste heat may be effectively used without changing the operating condition of the primary system which has great capacity of generated power, and hence the entire generated power may be obtained at higher level.

Data supplied from the esp@cenet database - I2

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 59-063310

(43)Date of publication of application : 11.04.1984

(51)Int.Cl.

F01K 23/04  
F01K 23/10

(21)Application number : 57-067422

(71)Applicant : HITACHI LTD

(22)Date of filing : 23.04.1982

(72)Inventor : BESSHO TAISUKE

OGA KOJI

SATO TAKAO

OZAWA YOSHIHIRO

YAMAMOTO HAJIME

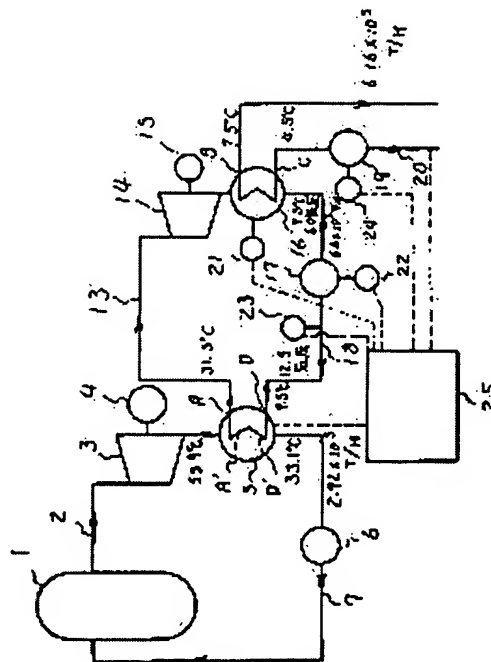
## (54) COMPOUND PLANT

### (57)Abstract:

**PURPOSE:** To provide higher overall generated power in a compound plant designed that the secondary power generating system is caused to generate power with the aid of waste heat of the primary power generating system by controlling the operating condition of working fluid as to maximize the power of the secondary system without changing the generated capacity of the primary system.

**CONSTITUTION:** In a system, for example, wherein an evaporator 5, namely, a condenser of a primary system nuclear power plant recovers waste heat and power is then generated in a secondary system which uses ammonia as working fluid, a controller 25 computes the physical properties of a plurality of fluids and the

operating condition of the working fluids is determined on the bases of the thermal income and expenditure of each of the turbine 14, the evaporator 5 and a condenser 16 of the secondary system according to those factors of the preset value and temperature of the working fluid in the secondary system at the inlet of the evaporator 5, the temperature at the outlet thereof and the pressure inside the condenser 16. And the capacity of generated power



is calculated and searched by use of a criterion function of a Rankine cycle. The working fluid is then controlled under the determined operating condition. Waste heat may be effectively used without changing the operating condition of the primary system which has great capacity of generated power, and hence the entire generated power may be obtained at higher level.

---

## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office